# **ENVIRONMENTAL PRODUCT DECLARATION**

as per ISO 14025 and EN 15804+A1

Programme holder Institut Bauen und Umwelt e.V. (IBU

Publisher Institut Bauen und Umwelt e.V. (IBU)

Declaration number EPD-EGE-20210260-CBC1-EN

Issue date 14/10/2021 Valid to 13/10/2026

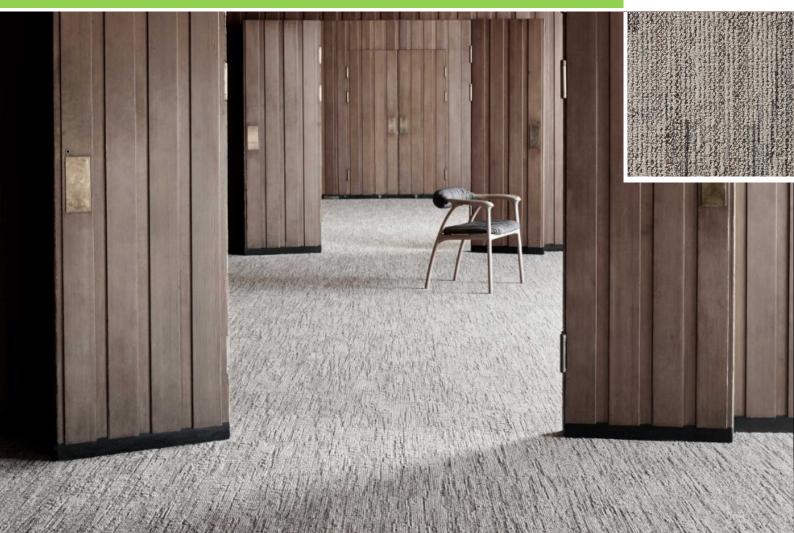
# **Ege Tuft 950 ECT750,**

tufted carpet tiles, print design, pile material made of polyamide 6 with 100% recycled content, total pile weight 950 g/m<sup>2</sup>, Ecotrust750 felt backing made of recycled material

ege®



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# **General Information**

ege®	Ege Tuft 950 ECT750,
	tufted carpet tiles, print design, pile
	material PA 6 with 100% recycled
	content, total pile weight 950 g/m²,
	Ecotrust750 felt backing
Programme holder	Owner of the declaration
IBU – Institut Bauen und Umwelt e.V.	Ege Carpets A/S
Panoramastr. 1	Industrivej Nord 25
10178 Berlin Germany	7400 Herning Denmark
Germany	Deliman
Declaration number	Declared product / declared unit
EPD-EGE-20210260-CBC1-EN	1 m² tufted carpet tiles Ege Tuft 950 ECT750.
This declaration is based on the product	Scope:
category rules:	The manufacturer declaration applies to the tufted carpet tiles Ege Tuft 950 ECT750. The product is
Floor coverings, 02/2018 (PCR checked and approved by the SVR)	manufactured in the ege production site Herning,
(i ortanosta and approvod by the ovity	Denmark.
Issue date	The declaration is only valid in conjunction with a valid
14/10/2021	GUT-PRODIS license of the product.
Valid to	The owner of the declaration shall be liable for the
13/10/2026	underlying information and evidence; the IBU shall not
	be liable with respect to manufacturer information, life cycle assessment data and evidences.
	The EPD was created according to the specifications
	of <i>EN 15804+A1</i> . In the following, the standard will be simplified as <i>EN 15804</i> .
	Verification
Man 11 he	The standard EN 15804 serves as the core PCR
Man Peter	Independent verification of the declaration and data according to ISO 14025:2010
Dipl. Ing. Hans Peters (chairman of Institut Bauen und Umwelt e.V.)	internally x externally
Stank Hails	Angela Schindle
Dr. Alexander Röder (Managing Director Institut Bauen und Umwelt e.V.))	Angela Schindler

# **Product**

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### Product description/Product definition

Ege Tuft 950 ECT750 - tufted carpet tiles having a surface pile of polyamide 6 with 100% recycled content and an Ecotrust 750 felt backing made of 100% recycled polyester. The total pile weight is 950 g/m². The recycled content out of total weight is 48%. The carpet is coloured by an injection printing system which allows the creation of various designs.

For the placing on the market of the product in the European Union/European Free Trade Association (EU/EFTA) (with the exception of Switzerland) Regulation (EU) No. 305/2011 Construction Product Regulation (CPR) applies. The product needs a Declaration of Performance (DoP) taking into consideration EN 14041, Resilient, textile and laminate floor coverings - Essential characteristics, May 2018, and the CE-marking. The DoP of the product can be found on the manufacturer's technical information

section. For the application and use of the product the respective national provisions apply.

#### **Application**

According to the use class as defined in *EN 1307* the product can be used in all professional areas which require class 33 or less.





#### **Technical Data**

The performance data listed in the DoP apply.

Name	Value	Unit
Product Form	Tiles 48 cm x 48 cm and	
Product Porm	96 cm x 96 cm	-
Type of manufacture	Tufted carpet tiles	-
Yarn type	100% recycled PA 6	-
Colouration	Injection printing system	
	Ecotrust 750 - felt backing	
Secondary backing	made of 100% recycled	-
	polyester	
Total pile weight	950	g/m²
Total carpet weight	3550	g/m <sup>2</sup>
Total thickness	8.5	mm

Performance data of the product in accordance with the declaration of performance with respect to its essential characteristics according to *EN 14041*: 2018-05, Resilient, textile and laminate floor coverings - Essential characteristics.

Additional product properties in accordance with *EN* 1307 can be found on the Product Information System *PRODIS* using the *PRODIS* registration number of the product (www.pro-dis.info) or on the manufacturer's technical information section (www.egecarpets.com).

#### Base materials/Ancillary materials

Name	Value	Unit
Polyamide 6	26.8	%
Polyester	24.5	%
Mineral filler	18.5	%
Aluminium hydroxide	14.7	%
Polymer dispersion (solid content)	14.9	%
Additives	0.7	%

This product contains substances listed in the *ECHA* candidate list (16.01.2020) or other carcinogenic, mutagenic or reprotoxic (CMR) substances in categories 1A or 1B which are not on the candidate list exceeding 0.1 percentage by mass: no The products are registered in the GUT-*PRODIS* Information System. The *PRODIS* system ensures the compliance with limitations of various chemicals and Volatile Organic Compound (VOC)-emissions and a ban on the use of all substances that are listed as 'Substances of Very High Concern' (SVHC) under *REACH*.

#### Reference service life

A calculation of the reference service life according to *ISO 15686* is not possible.

The service life of textile floor coverings strongly depends on the correct installation taking into account the declared use classification and the adherence to cleaning and maintenance instructions.

A minimum service life of 10 years can be assumed, technical service life can be considerably longer.

#### LCA: Calculation rules

### **Declared Unit**

Name	Value	Unit
Declared unit	1	m <sup>2</sup>
conversion factor [Mass/Declared Unit]	3.55	-

The declared unit refers to 1 m<sup>2</sup> produced textile floor covering. The Output of module A5 'Assembly' is 1 m<sup>2</sup> installed textile floor covering.

#### System boundary

Type of EPD: Cradle-to-grave

System boundaries of modules A, B, C, D:

Modules C3, C4 and D are indicated separately for three end-of-life scenarios:

- 1 landfill disposal
- 2 municipal waste incineration
- 3 recovery in a cement plant

# A1-A3 Production:

Energy supply and production of the basic material, processing of secondary material, auxiliary material, transport of the material to the manufacturing site, emissions, waste water treatment, packaging material and waste processing up to the landfill disposal of residual waste (except radioactive waste). Benefits for generated electricity and steam due to the incineration of production waste are aggregated.

Biogenic carbon that is stored in renewable material

(packaging paper) is taken into account as well as the associated carbon dioxide uptake from the air from which this biogenic carbon comes.

# A4 Transport:

Transport of the packed textile floor covering from factory gate to the place of installation.

# A5 Installation:

Installation of the textile floor covering, processing of installation waste and packaging waste up to the landfill disposal of residual waste (except radioactive waste), the production of the amount of carpet that occurs as installation waste including its transport to the place of installation.

Generated electricity and steam due to the incineration of waste are listed in the result table as exported energy

Biogenic carbon that is stored in renewable materials in packaging paper is released as carbon dioxide emissions into the air at the end of life in module A5. Preparation of the floor and auxiliary materials (adhesives, fixing agents, PET connectors) are beyond the system boundaries and not taken into account.

#### B1 Use:

Indoor emissions during the use stage. After the first year, no product-related Volatile Organic Compound (VOC) emissions are relevant due to known VOC decay curves of the product.



#### B2 Maintenance:

Cleaning of the textile floor covering for a period of 1

Vacuum cleaning - electricity supply

Wet cleaning - electricity, water consumption, production of the cleaning agent, waste water treatment.

The declared values in this module have to be multiplied by the assumed service life of the floor covering in the building in question.

The modules are not relevant and therefore not declared.

#### C1 De-construction:

The floor covering is de-constructed manually and no additional environmental impact is caused.

#### C2 Transport:

Transport of the carpet waste to a landfill, to the municipal waste incineration plant (MWI) or to the waste collection facility for recycling.

#### C3 Waste processing:

C3-1: Landfill disposal needs no waste processing.

C3-2: Impact from waste incineration (plant with

R1>0.6), generated electricity and steam are listed in the result table as exported energy.

C3-3: Collection of the carpet waste for recovery in the cement industry, waste processing (granulating), transport to the cement plant, emissions from the incineration.

#### C4 Disposal

C4-1: Impact from landfill disposal,

C4-2: The carpet waste leaves the system in module C3-2,

C4-3: The pre-processed carpet waste leaves the system in module C3-3.

### D Recycling potential:

Calculated benefits result from materials exclusive secondary materials (net materials).

D-A5: Benefits for generated energy due to incineration of packaging and installation waste (incineration plant with R1 > 0.6),

D-1: Benefits for generated energy due to landfill disposal of carpet waste at the end-of-life,

D-2: Benefits for generated energy due to incineration of carpet waste at the end-of-life (incineration plant with R1 > 0.6),

D-3: Benefits for saved fossil energy and saved inorganic material due to recovery of the carpet in a cement plant.

#### Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to EN 15804 and the building context, respectively the product-specific characteristics of performance, are taken into account.

Background data are taken from the GaBi database, 2021-1. Remaining data gaps are covered by the ecoinvent 3.7 database, 2020.

# LCA: Scenarios and additional technical information

The following information refer to the declared modules and are the basis for calculations or can be used for further calculations.

# Transport to the construction site (A4)

Name	Value	Unit
Litres of fuel (truck, EURO 0-6 mix)	0.0083	I/100km
Transport distance	700	km
Capacity utilisation (including empty runs)	55	%

Installation in the building (A5)

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Name	Value	Unit
Material loss	0.11	ka

Polyethene packaging waste and installation waste are considered to be incinerated in a municipal waste incineration plant. Cardboard packaging waste is going to be recycled.

Preparation of the floor and auxiliaries (adhesives, fixing agents, PET connectors etc.) are not taken into account.

#### Maintenance (B2)

The values for cleaning refer to 1 m<sup>2</sup> floor covering used in commercial areas per year.

Depending on the application based on ISO 10874, the technical service life recommended by the manufacturer and the anticipated strain on the floor by customers, the case-specific useful life can be established. Based on this useful life the effects of module B2 need to be calculated in order to obtain the overall environmental impacts.

Name	Value	Unit
Maintenance cycle (wet cleaning)	1.5	1/year
Maintenance cycle (vacuum cleaning)	208	1/year
Water consumption (wet cleaning)	0.004	m <sup>3</sup>
Cleaning agent (wet cleaning)	0.09	kg
Electricity consumption	0.314	kWh
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Further information on cleaning and maintenance see www.egecarpets.com

#### End of Life (C1-C4)

Three different end-of-life scenarios are declared and the results are indicated separately in module C. Each scenario is calculated as a 100% scenario.

Scenario 1: 100% landfill disposal

Scenario 2: 100% municipal waste incineration (MWI) with R1>0.6

Scenario 3: 100% recovery in the cement industry

If combinations of these scenarios have to be calculated this should be done according to the following scheme:

EOL-impact = x% impact (Scenario 1)

+ y% impact (Scenario 2)

+ z% impact (Scenario 3) with x% + y% + z% = 100%



Name	Value	Unit			
Collected as mixed construction waste	2 55	kg			
(scenario 1 and 2)	3.55				
Collected separately (scenario 3)	3.55	kg			
Landfilling (scenario 1)	3.55	kg			
Energy recovery (scenario 2)	3.55	kg			
Energy recovery (scenario 3)	2,37	kg			
Recycling (scenario 3)	1.18	kg			

# Reuse, recovery and/or recycling potentials (D), relevant scenario information

Recovery or recycling potentials due to the three endof-life scenarios (module C) are indicated separately.

Recycling in the cement industry (scenario 3) VDZ e.V.

The organic material of the carpet is used as an alternative fuel in a cement kiln. It mainly substitutes for lignite (65.2%), hard coal (26.2%) and petrol coke (8.6%).

The inorganic material is substantially integrated into the cement clinker and substitutes for original material input.



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#### LCA: Results

Information on non-relevant modules: Modules B3 - B7 are not relevant during the service life of the carpet. Modules C1, C3/1, C4/2 and C4/3 cause no additional impact (see chapter "LCA: Calculation rules" in this document). All these modules are declared and marked as 'modules not relevant/declared'.

Module C2 represents the transport for scenarios 1, 2 and 3. Column D represents module D/A5. The calculations are based on the *CML characterization factors* (version August 2016).

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE NOT DECLARED; MNR = MODULE NOT RELEVANT)

MIKIN	1110		NOI													
PROI	PRODUCT STAGE			RUCTI OCESS AGE		USE STAGE						EN	D OF LI	FE STA		BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse- Recovery- Recycling- potential
<b>A</b> 1	A2	А3	A4	A5	B1	B1 B2 B3 B4 B5 B6 B7 C1 C2 C3 C4					D					
Х	Х	Х	X	Х	Х	Х	MNR	MNR	MNR	MND	MND	MND	Х	Х	Х	X

#### Parameter Unit A1-A3 Α4 **A5 B1** B2 C2 C3/2 C3/3 C4/1 D/1 D/2 D/3 GWP -2.48E-1 6.82E+0 2.12E-1 5.99E-1 0.00E+0 2.92E-1 1.18E-2 6.18E+0 6.23E+0 2.41E-1 -6.16E-2 0.00E+0 -7.38E-1 [kg CO<sub>2</sub>-Eq.] -9.51E--1.12E--1.90E-ODP [kg CFC11-Eq.] 3.13E-8 3.70E-17 9.40E-10 0.00E+0 1.08E-8 2.06E-18 1.53E-15 2.16E-15 8.18E-16 0.00E+0 16 15 [kg SO<sub>2</sub>-Eq.] 1.84E-2 8.77E-4 6.77E-4 0.00E+0 1.08E-3 4.87E-5 3.01E-3 3.17E-3 6.26E-4 AP -7.18E-5 0.00E+0 -8.52E-4 -1.01E-3 3.85E-3 | 2.24E-4 | 1.47E-4 | 0.00E+0 | 3.02E-4 | 1.24E-5 | 7.69E-4 | 8.04E-4 | 6.79E-4 | -9.85E-6 | 0.00E+0 | -1.17E-4 [kg (PO<sub>4</sub>)<sup>3</sup>-Eq.] ΕP -1.28E-4 1.02E-3 3.76E-4 2.48E-5 6.29E-5 1.45E-4 2.08E-5 1.90E-4 1.40E-4 5.63E-5 6.57E-6 0.00E+0 7.83E-5 7.97E-5 6.43E-6 1.88E-8 1.97E-7 0.00E+0 2.74E-6 1.05E-9 1.11E-7 1.20E-7 4.63E-8 1.16E-8 0.00E+0 -1.38E-7 -2.78E-7 POCF [kg ethene-Eq.] ADPE [kg Sb-Eq.] 1.17E+2 2.88E+0 3.68E+0 0.00E+0 6.76E+0 1.61E-1 2.23E+0 2.84E+0 3.60E+0 -8.84E-1 0.00E+0 -1.06E+1 -1.45E+1 ADPF [MJ]

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources

# RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A1: 1 m<sup>2</sup> floor covering

Unit	A1-A3	A4	<b>A</b> 5	B1	B2	C2	C3/2	C3/3	C4/1	D	D/1	D/2	D/3
[MJ]	7.14E+1	1.61E-1	3.32E+0	0.00E+0	1.23E+0	8.97E-3	3.59E-1	5.41E-1	2.69E-1	-2.45E-1	0.00E+0	-2.89E+0	-4.38E-1
[MJ]	1.13E+0	0.00E+0	-1.13E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
[MJ]	7.25E+1	1.61E-1	2.19E+0	0.00E+0	1.23E+0	8.97E-3	3.59E-1	5.41E-1	2.69E-1	-2.45E-1	0.00E+0	-2.89E+0	-4.38E-1
[LM]	1.11E+2	2.89E+0	5.07E+0	0.00E+0	7.85E+0	1.61E-1	1.65E+1	1.73E+1	3.71E+0	-1.08E+0	0.00E+0	-1.30E+1	-1.48E+1
[LM]	1.52E+1	0.00E+0	-1.12E+0	0.00E+0	0.00E+0	0.00E+0	-1.41E+1	-1.41E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
[LM]	1.26E+2	2.89E+0	3.95E+0	0.00E+0	7.85E+0	1.61E-1	2.44E+0	3.19E+0	3.71E+0	-1.08E+0	0.00E+0	-1.30E+1	-1.48E+1
[kg]	1.82E+0	0.00E+0	5.45E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.90E-1
[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
[LM]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
[m³]	1.41E-1	1.85E-4	4.88E-3	0.00E+0	4.13E-3	1.03E-5	1.62E-2	1.64E-2	3.42E-5	-2.39E-4	0.00E+0	-2.83E-3	-1.63E-3
	[MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [MJ] [MJ]	[MJ] 7.14E+1 [MJ] 1.13E+0 [MJ] 7.25E+1 [MJ] 1.11E+2 [MJ] 1.52E+1 [MJ] 1.26E+2 [kg] 1.82E+0 [MJ] 0.00E+0 [MJ] 0.00E+0	[MJ] 7.14E+1 1.61E-1 [MJ] 1.13E+0 0.00E+0 [MJ] 7.25E+1 1.61E-1 [MJ] 1.11E+2 2.89E+0 [MJ] 1.52E+1 0.00E+0 [MJ] 1.26E+2 2.89E+0 [kg] 1.82E+0 0.00E+0 [MJ] 0.00E+0 0.00E+0 [MJ] 0.00E+0 0.00E+0	[MJ] 7.14E+1 1.61E-1 3.32E+0 [MJ] 1.13E+0 0.00E+0 -1.13E+0 [MJ] 7.25E+1 1.61E-1 2.19E+0 [MJ] 1.15E+1 0.00E+0 -1.12E+0 [MJ] 1.52E+1 0.00E+0 -1.12E+0 [MJ] 1.26E+2 2.89E+0 3.95E+0 [kg] 1.82E+0 0.00E+0 5.45E-2 [MJ] 0.00E+0 0.00E+0 0.00E+0 [MJ] 0.00E+0 0.00E+0 0.00E+0	[MJ] 7.14E+1 1.61E-1 3.32E+0 0.00E+0 [MJ] 1.13E+0 0.00E+0 -1.13E+0 0.00E+0 [MJ] 7.25E+1 1.61E-1 2.19E+0 0.00E+0 [MJ] 1.15E+1 0.00E+0 -1.12E+0 0.00E+0 [MJ] 1.52E+1 0.00E+0 -1.12E+0 0.00E+0 [MJ] 1.26E+2 2.89E+0 3.95E+0 0.00E+0 [MJ] 0.00E+0 0.00E+0 5.45E-2 0.00E+0 [MJ] 0.00E+0 0.00E+0 0.00E+0 0.00E+0 [MJ] 0.00E+0 0.00E+0 0.00E+0 0.00E+0	[MJ] 7.14E+1 1.61E-1 3.32E+0 0.00E+0 1.23E+0 [MJ] 1.13E+0 0.00E+0 -1.13E+0 0.00E+0 0.00E+0 [MJ] 7.25E+1 1.61E-1 2.19E+0 0.00E+0 1.23E+0 [MJ] 1.11E+2 2.89E+0 5.07E+0 0.00E+0 7.85E+0 [MJ] 1.52E+1 0.00E+0 -1.12E+0 0.00E+0 0.00E+0 [MJ] 1.26E+2 2.89E+0 3.95E+0 0.00E+0 7.85E+0 [kg] 1.82E+0 0.00E+0 5.45E-2 0.00E+0 0.00E+0 [MJ] 0.00E+0 0.00E+0 0.00E+0 0.00E+0 [MJ] 0.00E+0 0.00E+0 0.00E+0 0.00E+0	[MJ] 7.14E+1 1.61E-1 3.32E+0 0.00E+0 1.23E+0 8.97E-3 [MJ] 1.13E+0 0.00E+0 -1.13E+0 0.00E+0 0.00E+0 [MJ] 7.25E+1 1.61E-1 2.19E+0 0.00E+0 1.23E+0 8.97E-3 [MJ] 1.11E+2 2.89E+0 5.07E+0 0.00E+0 7.85E+0 1.61E-1 [MJ] 1.52E+1 0.00E+0 -1.12E+0 0.00E+0 0.00E+0 0.00E+0 [MJ] 1.26E+2 2.89E+0 3.95E+0 0.00E+0 7.85E+0 1.61E-1 [kg] 1.82E+0 0.00E+0 5.45E-2 0.00E+0 0.00E+0 0.00E+0 [MJ] 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 [MJ] 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0	[MJ] 7.14E+1 1.61E-1 3.32E+0 0.00E+0 1.23E+0 8.97E-3 3.59E-1 [MJ] 1.13E+0 0.00E+0 -1.13E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 [MJ] 7.25E+1 1.61E-1 2.19E+0 0.00E+0 1.23E+0 8.97E-3 3.59E-1 [MJ] 1.11E+2 2.89E+0 5.07E+0 0.00E+0 7.85E+0 1.61E-1 1.65E+1 [MJ] 1.52E+1 0.00E+0 -1.12E+0 0.00E+0 0.00E+0 0.00E+0 -1.41E+1 [MJ] 1.26E+2 2.89E+0 3.95E+0 0.00E+0 7.85E+0 1.61E-1 2.44E+0 [kg] 1.82E+0 0.00E+0 5.45E-2 0.00E+0 0.00E+0 0.00E+0 0.00E+0 [MJ] 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 [MJ] 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0	[MJ] 7.14E+1 1.61E-1 3.32E+0 0.00E+0 1.23E+0 8.97E-3 3.59E-1 5.41E-1 [MJ] 1.13E+0 0.00E+0 -1.13E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 [MJ] 7.25E+1 1.61E-1 2.19E+0 0.00E+0 1.23E+0 8.97E-3 3.59E-1 5.41E-1 [MJ] 1.11E+2 2.89E+0 5.07E+0 0.00E+0 7.85E+0 1.61E-1 1.65E+1 1.73E+1 [MJ] 1.52E+1 0.00E+0 -1.12E+0 0.00E+0 0.00E+0 0.00E+0 -1.41E+1 -1.41E+1 [MJ] 1.26E+2 2.89E+0 3.95E+0 0.00E+0 7.85E+0 1.61E-1 2.44E+0 3.19E+0 [kg] 1.82E+0 0.00E+0 5.45E-2 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 [MJ] 0.00E+0 0.	[MJ]         7.14E+1         1.61E-1         3.32E+0         0.00E+0         1.23E+0         8.97E-3         3.59E-1         5.41E-1         2.69E-1           [MJ]         1.13E+0         0.00E+0         1.23E+0         8.97E-3         3.59E-1         5.41E-1         2.69E-1         1.41E-1         2.69E-1         1.52E-1         5.41E-1         2.69E-1         1.73E+1         3.71E+0         1.52E+1         1.00E+0         1.00E+0         0.00E+0         0.00E+0         1.61E-1         1.65E+1         1.73E+1         3.71E+0         1.61E-1         1.61E-1         1.41E+1         1.41E+1         0.00E+0         0.00E+0         0.00E+0         0.00E+0         0.00E+0         0.00E+0         3.71E+0         0.00E+0         0.00E+0 <td>[MJ] 7.14E+1 1.61E-1 3.32E+0 0.00E+0 1.23E+0 8.97E-3 3.59E-1 5.41E-1 2.69E-1 -2.45E-1 [MJ] 1.13E+0 0.00E+0 -1.13E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 [MJ] 7.25E+1 1.61E-1 2.19E+0 0.00E+0 1.23E+0 8.97E-3 3.59E-1 5.41E-1 2.69E-1 -2.45E-1 [MJ] 1.11E+2 2.89E+0 5.07E+0 0.00E+0 7.85E+0 1.61E-1 1.65E+1 1.73E+1 3.71E+0 1.08E+0 [MJ] 1.52E+1 0.00E+0 1.12E+0 0.00E+0 0.00E+0 0.00E+0 1.41E+1 1.41E+1 0.00E+0 0.00E+0 [MJ] 1.26E+2 2.89E+0 3.95E+0 0.00E+0 0.00E+0 0.00E+0 1.61E-1 2.44E+0 3.19E+0 3.71E+0 -1.08E+0 [MJ] 1.82E+0 0.00E+0 5.45E-2 0.00E+0 0.00E+0</td> <td>[MJ] 7.14E+1 1.61E-1 3.32E+0 0.00E+0 1.23E+0 8.97E-3 3.59E-1 5.41E-1 2.69E-1 -2.45E-1 0.00E+0 [MJ] 1.13E+0 0.00E+0 -1.13E+0 0.00E+0 0.</td> <td>[MJ] 7.14E+1 1.61E-1 3.32E+0 0.00E+0 1.23E+0 0.00E+0 0</td>	[MJ] 7.14E+1 1.61E-1 3.32E+0 0.00E+0 1.23E+0 8.97E-3 3.59E-1 5.41E-1 2.69E-1 -2.45E-1 [MJ] 1.13E+0 0.00E+0 -1.13E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 0.00E+0 [MJ] 7.25E+1 1.61E-1 2.19E+0 0.00E+0 1.23E+0 8.97E-3 3.59E-1 5.41E-1 2.69E-1 -2.45E-1 [MJ] 1.11E+2 2.89E+0 5.07E+0 0.00E+0 7.85E+0 1.61E-1 1.65E+1 1.73E+1 3.71E+0 1.08E+0 [MJ] 1.52E+1 0.00E+0 1.12E+0 0.00E+0 0.00E+0 0.00E+0 1.41E+1 1.41E+1 0.00E+0 0.00E+0 [MJ] 1.26E+2 2.89E+0 3.95E+0 0.00E+0 0.00E+0 0.00E+0 1.61E-1 2.44E+0 3.19E+0 3.71E+0 -1.08E+0 [MJ] 1.82E+0 0.00E+0 5.45E-2 0.00E+0	[MJ] 7.14E+1 1.61E-1 3.32E+0 0.00E+0 1.23E+0 8.97E-3 3.59E-1 5.41E-1 2.69E-1 -2.45E-1 0.00E+0 [MJ] 1.13E+0 0.00E+0 -1.13E+0 0.00E+0 0.	[MJ] 7.14E+1 1.61E-1 3.32E+0 0.00E+0 1.23E+0 0.00E+0 0

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources; penke = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources used as raw materials; PENRM = Use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

# RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A1:

Parameter	Unit	A1-A3	A4	<b>A</b> 5	B1	B2	C2	C3/2	C3/3	C4/1	D	D/1	D/2	D/3
HWD	[kg]	2.71E-3	1.46E-10	8.14E-5	0.00E+0	5.90E-10	8.11E-12	5.00E-10	6.13E-10	6.67E-10	-2.43E-10	0.00E+0	-2.90E-9	-4.06E-10
NHWD	[kg]	6.68E-1	4.30E-4	3.75E-2	0.00E+0	5.62E-3	2.39E-5	5.70E-1	5.70E-1	3.53E+0	-5.08E-4	0.00E+0	-6.04E-3	-2.49E-1
RWD	[kg]	3.18E-3	3.51E-6	9.88E-5	0.00E+0	3.32E-4	1.95E-7	8.70E-5	1.40E-4	4.31E-5	-7.89E-5	0.00E+0	-9.31E-4	-1.05E-4
CRU	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	[kg]	0.00E+0	0.00E+0	7.50E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	6.90E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MER	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EEE	[MJ]	0.00E+0	0.00E+0	4.77E-1	0.00E+0	0.00E+0	0.00E+0	1.01E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EET	[MJ]	0.00E+0	0.00E+0	8.58E-1	0.00E+0	0.00E+0	0.00E+0	1.83E+1	6.16E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components

Caption for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EEE = Exported thermal energy

The declared result figures in module B2 have to be multiplied by the assumed service life (in years) of the floor covering in the building under consideration.

Not all of the life cycle inventories applied in this study support the methodological approach for the waste and water indicators. The data are based on publications of industry. The indicators for waste and water of the system are evaluated but contain a higher degree of uncertainty.



# References

#### EN 1307

DIN EN 1307: 2014+A1:2016: Textile floor coverings - Classification

#### EN 13501-1

DIN EN 13501-1:2010-01: Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests

#### EN 14041

DIN EN 14041: 2018-05: Resilient, textile and laminate floor coverings - Essential characteristics

### EN 15804

EN 15804:2012-04+A1 2013, Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

#### EN 16810

DIN EN 16810: 2017-08: Resilient, textile and laminate floor coverings – Environmental product declarations – Product category rules

#### ISO 10874

DIN EN ISO 10874: 2012-04: Resilient, textile and laminate floor coverings - Classification

#### ISO 14025

DIN EN /ISO 14025:2011-10: Environmental labels and declarations — Type III environmental declarations — Principles and procedures

#### ISO 15686

ISO 15686: Buildings and constructed assets -Service life planning

ISO 15686-1: 2011-05: Part 1: General principles and framework

ISO 15686-2: 2012-05: Part 2: Service life prediction procedures

ISO 15686-7: 2006-03: Part 7: Performance evaluation for feedback of service life data from practice

ISO 15686-8: 2008-06: Part 8: Reference service life and service-life estimation

# Regulation (EU) No. 305/2011

Regulation No. 305/2011 Construction Products Regulation (CPR) of the European Council and of the European Parliament, April 2011

### **CML** characterization factors

Impact assessment characterization factors, version 4.7, August 2016, Institute of Environmental Sciences - 'Centrum voor Milieuwetenschappen in Leiden' (CML), Leiden, The Netherlands

#### **ECHA** candidate list

Candidate List of substances of very high concern (SVHCs) for authorisation, 16.01.2020, European Chemicals Agency (ECHA), Helsinki, Finland

#### ecoinvent 3.7

ecoinvent, Zurich, Switzerland, database version 3.7, published September 2020

#### GaBi database

GaBi Software-System and Database for Life Cycle Engineering, thinkstep AG, Leinfelden-Echterdingen, 2021-1

#### **IBU 2016**

IBU (2016): General Programme Instructions for the Preparation of EPDs at the Institut Bauen und Umwelt e.V., Version 1.1 Institut Bauen und Umwelt e.V., Berlin, www.ibu-epd.de

#### **PCR Part A**

Product Category Rules for Construction Products from the range of Environmental Product Declarations. Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Background Report, V1.9, Berlin: Institut Bauen und Umwelt e.V. (IBU), January 2021

#### **PCR Part B**

Product Category Rules for Construction Products from the range of Environmental Product Declarations of Institut Bauen und Umwelt (IBU), Part B: Requirements on the EPD for floor coverings, V1.2, Berlin: Institut Bauen und Umwelt e.V. (IBU), February 2018

#### **PRODIS**

Product Information System (PRODIS) of the European Carpet Industry, Gemeinschaft umweltfreundlicher Teppichboden e.V (GUT) and European Carpet and Rug Association (ECRA), http://www.pro-dis.info

# REACH

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Last update: 25.03.2014 (Status: 27.06.2018)

#### VDZ e.V.

Association of German Cement Works, Ed. Environmental Data of the German Cement Industry 2019

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